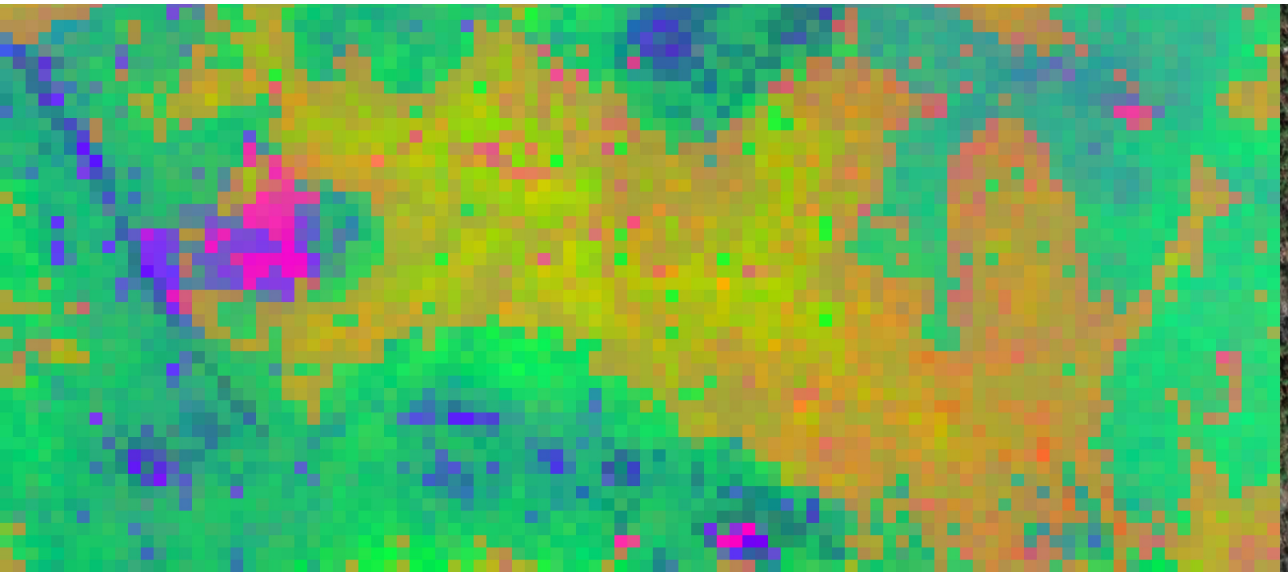
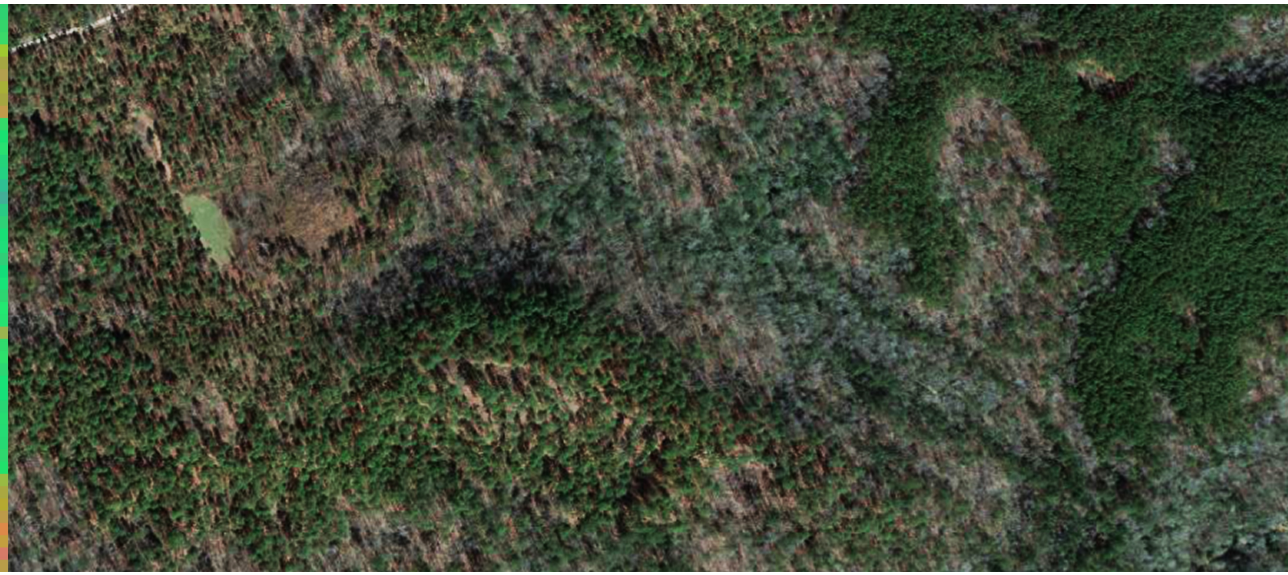
Integrating Remote Sensing and Biodiversity Observations to Map and Monitor Plant Taxonomic, Phylogenetic, and Functional β-diversity in the Greater Cape Floristic Region





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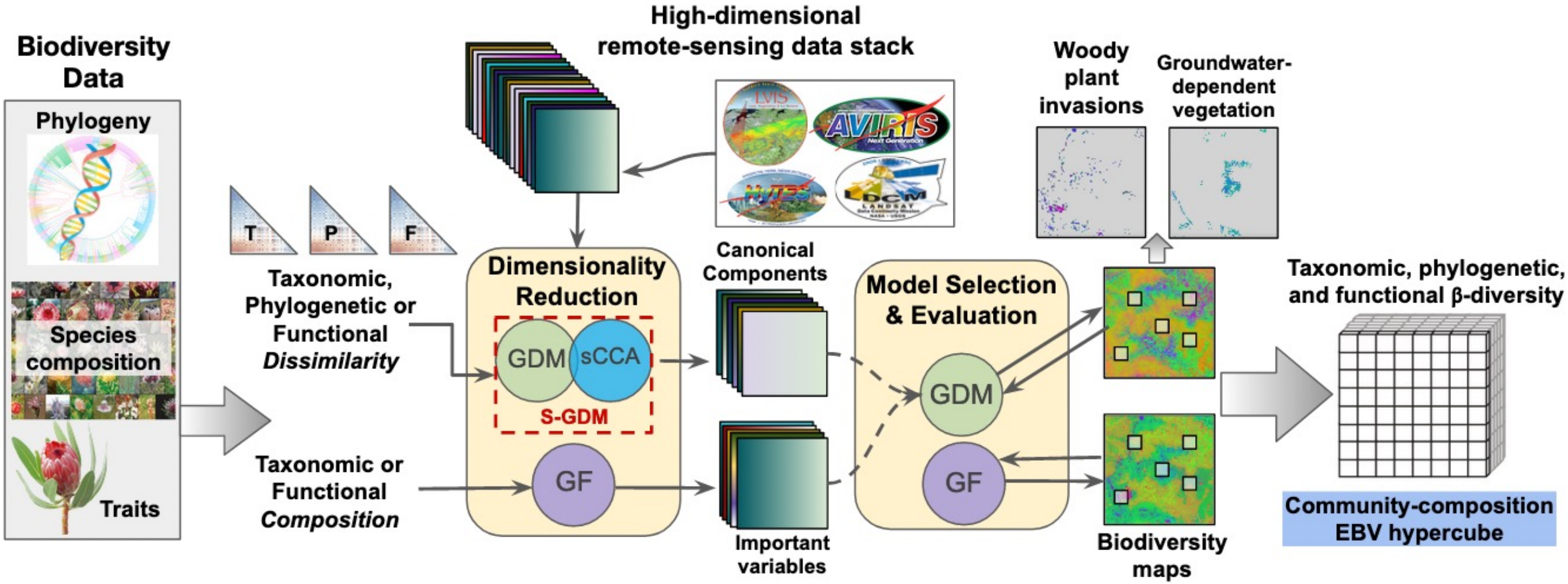
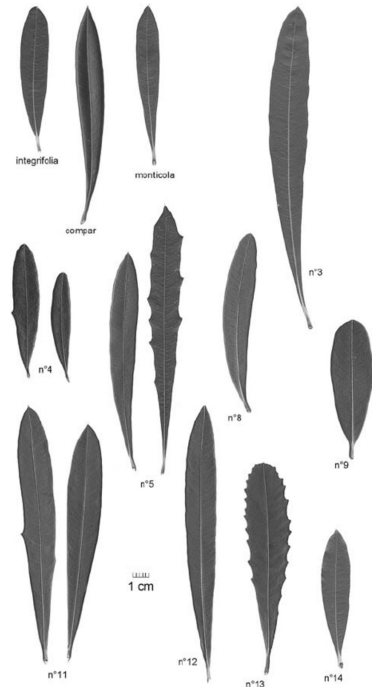
Biodiversity modeling pipeline to map community-composition *Essential Biodiversity Variables*



How does our ability to measure community composition using remote sensing vary across levels of biological organization?

Functional β-diversity



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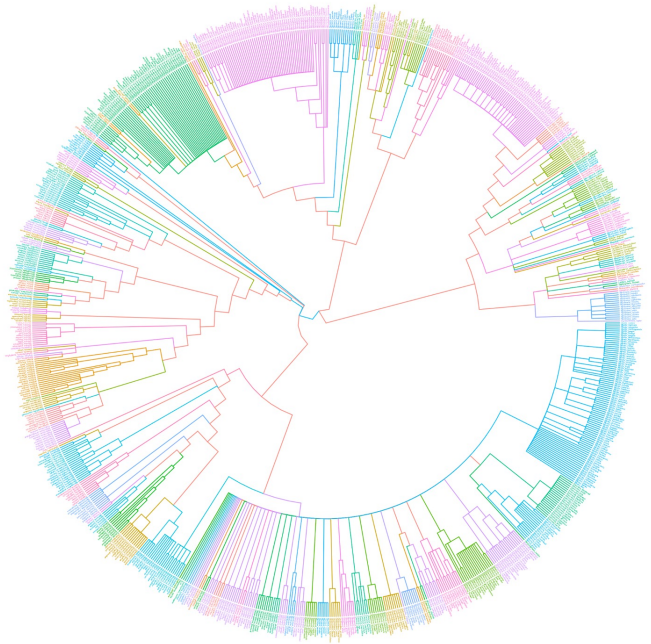
Phylogenetic β-diversity



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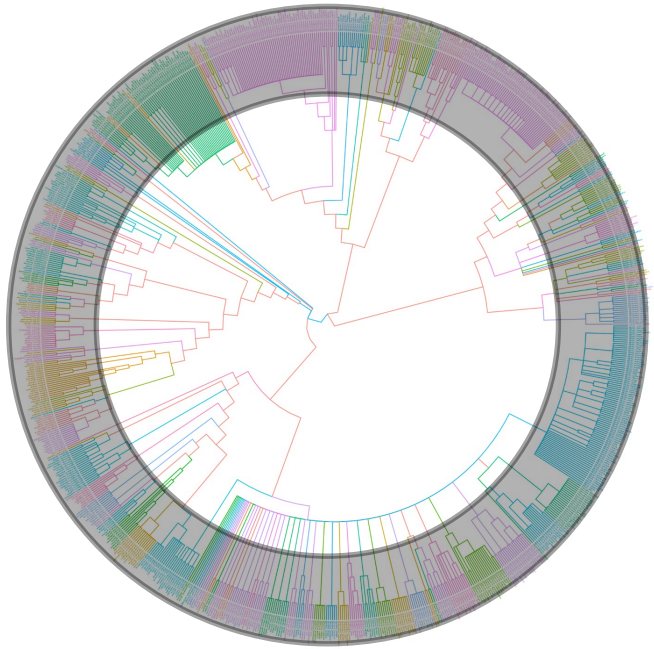
Species β-diversity

How does phylogenetic scale influence remote sensing of community composition?

Family-level Phylo-β-diversity



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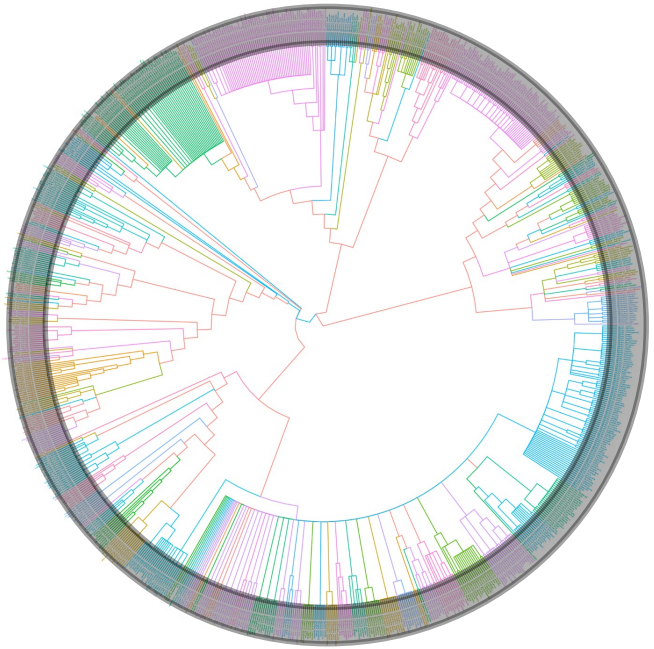
Genus-level Phylo-β-diversity



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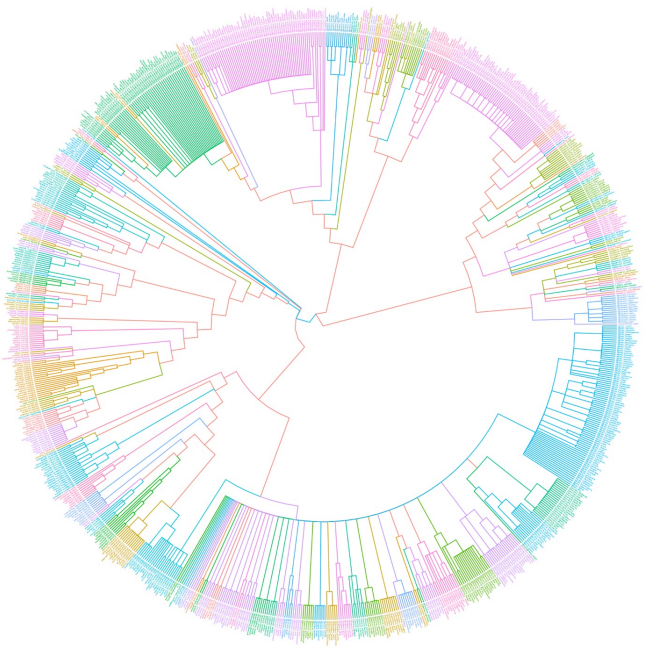
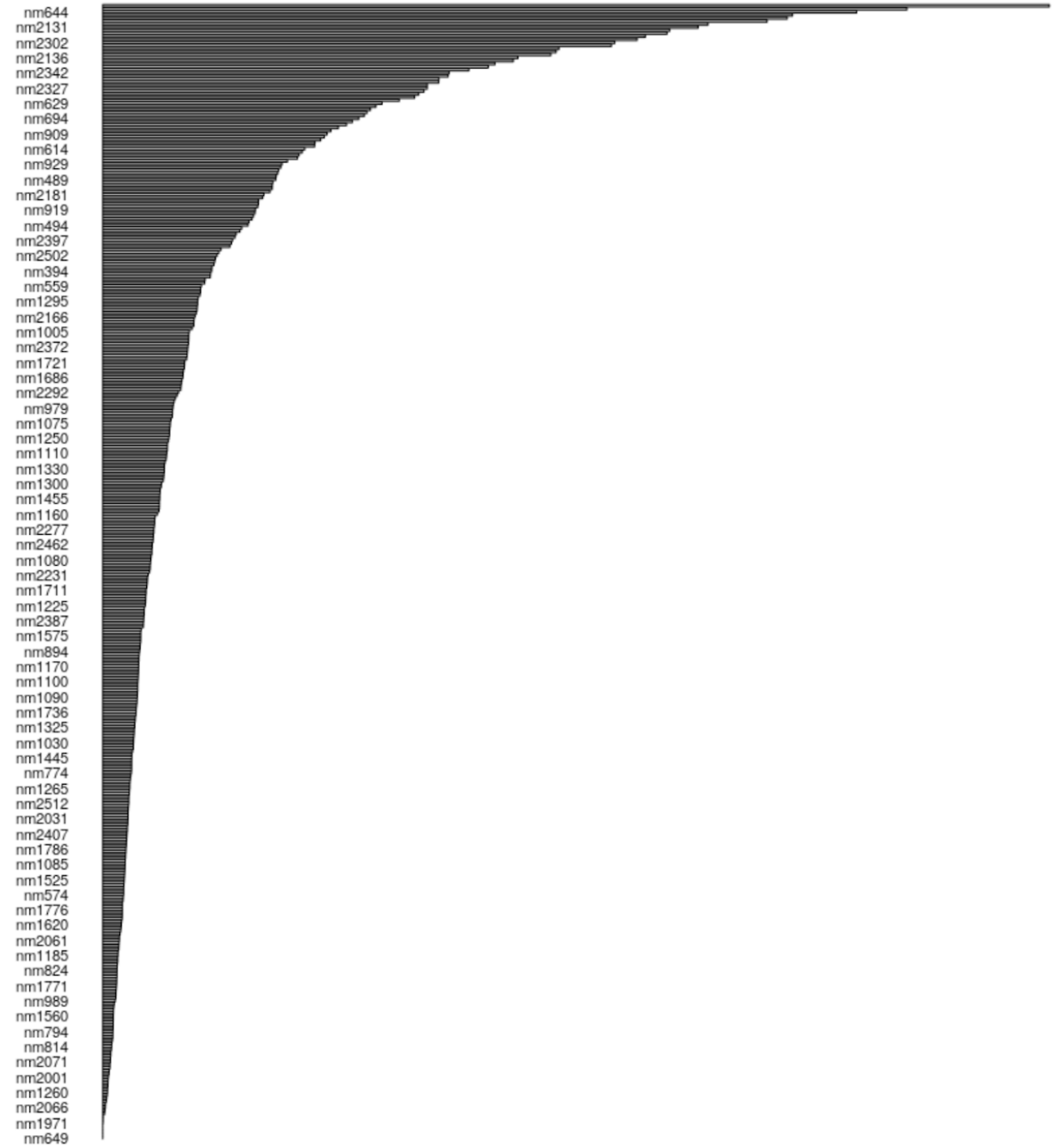
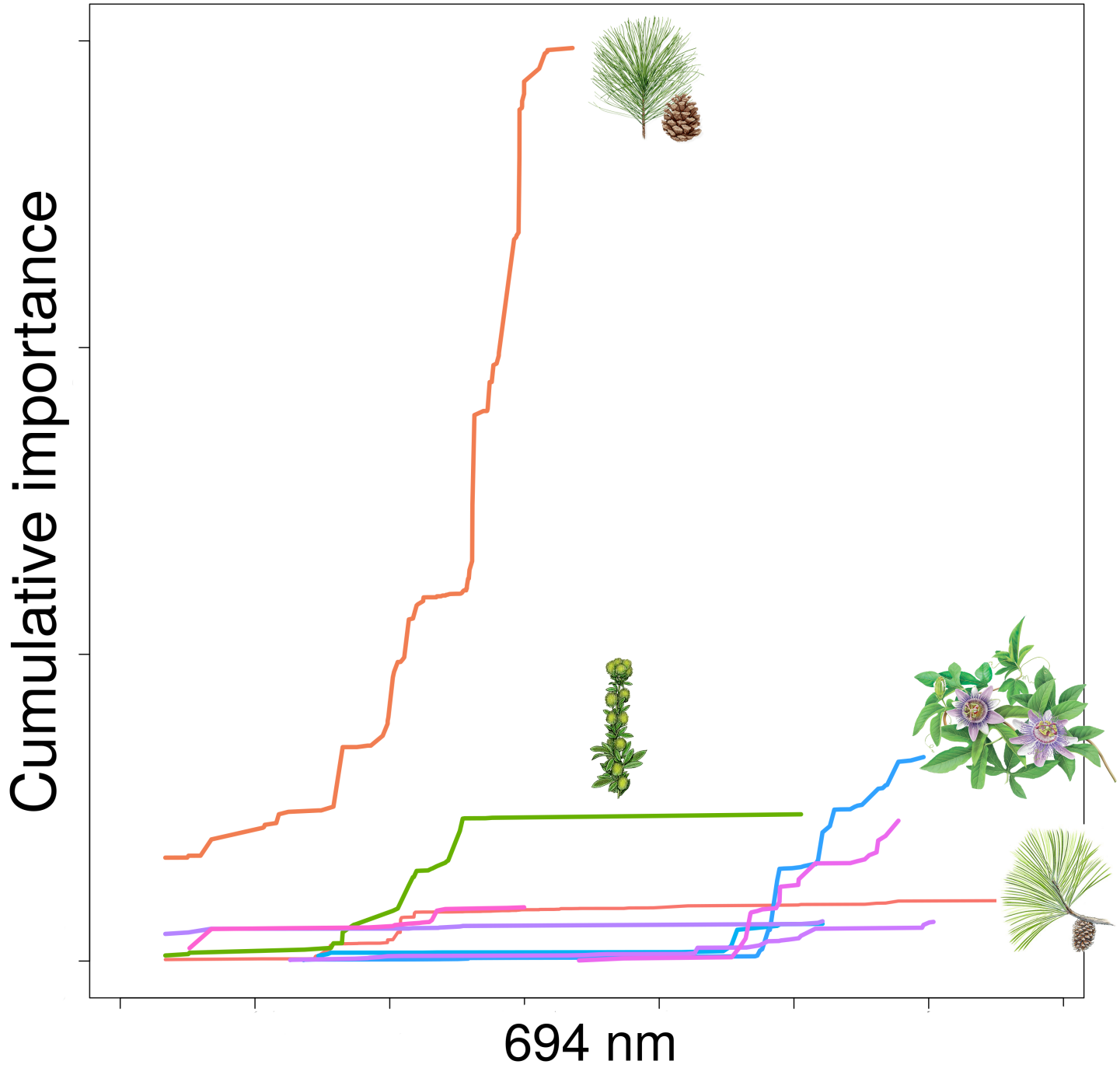
Species-level Phylo-β-diversity



Ranking of spectral band importance in explaining spatial variation in plant community composition



Individual bands more strongly associated with certain species, including some understory species



Fitted functions rescale remote sensing data to represent patterns of community composition & identify community-types of interest